

CLAIMS

1. A method of detecting in an electronic article
5 surveillance system whether an alarm condition exists,
the article surveillance system emitting, in transmission
pulses, an electromagnetic field and receiving, between
the transmission pulses, reply signals from at least one
alarm label which is located within the surveillance zone
10 of the article surveillance system, c h a r a c t e r -
i s e d by the steps of
after completed transmission of a transmission
pulse, sampling (11) a received reply signal,
identifying (19) zero crossings of the sampled reply
15 signal,
determining (19) agreement between phase positions
of the zero crossings and corresponding phase positions
of zero crossings of a reply signal, received and sampled
after a previously emitted transmission pulse, and
20 making (21, 23) an alarm decision on the basis of
the degree of agreement in phase position.
2. A method as claimed in claim 1, in which said
previously emitted transmission pulse is the preceding
transmission pulse.
- 25 3. A method as claimed in claim 1 or 2, in which an
alarm is initiated if the degree of agreement in phase
position exceeds a predetermined value.
4. A method as claimed in any one of the preceding
claims, in which the alarm decision is made on the basis
30 of an additional characteristic of the received reply
signal.
5. A method as claimed in claim 4, in which the
additional characteristic concerns the envelope of the
received reply signal.
- 35 6. An electronic article surveillance system, com-
prising means for detecting whether an alarm condition
exists, which article surveillance system in transmission

pulses emits an electromagnetic field and between the transmission pulses receives reply signals from at least one alarm label which is located within the surveillance zone of the article surveillance system, c h a r a c -

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means (27) for sampling a response signal, received after completed transmission of a transmission pulse,

means (33) for identifying zero crossings of the sampled reply signal,

10 means (33) for determining agreement between phase positions of the zero crossings and corresponding phase positions of zero crossings of a reply signal, received and sampled after a previously emitted transmission pulse and,

15 means (33) for making an alarm decision on the basis of the degree of agreement in phase position.

7. An electronic article surveillance system as claimed in claim 6, in which said previously emitted transmission pulse is the preceding transmission pulse.

20 8. An electronic article surveillance system as claimed in claim 6 or 7, in which an alarm is initiated if the degree of agreement in phase position exceeds a predetermined value.

9. An electronic article surveillance system as
25 claimed in any one of claims 6-8, in which the alarm decision is made on the basis of an additional characteristic of the received reply signal.

10. An electronic article surveillance system as
30 claimed in claim 9, in which the additional characteristic concerns the envelope of the received reply signal.